UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,163	12/15/2000	Koichi Yoshimi	1614.1103	8082

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EXAMINER
LI, AIMEE J

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 October 2004 and 02 October 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11,12,14,15 and 17-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11,12,14,15 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 11-12, 14-15, 17-18, and new claim 19 have been examined. Claims 12, 15, and

18 have been amended as per Applicant's request. New claim 19 has been added as per

Applicant's request.

Papers Submitted

2.   It is hereby acknowledged that the following papers have been received and placed on

record in the file: RCE as received on 02 October 2004 and Amendment as received on 01

October 2004.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

4.   Claim 19 recites the limitation "the initializing" in line 5. There is insufficient antecedent

basis for this limitation in the claim. There is nowhere prior to this recitation indicating an

initialization routine.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 11-12, 14-15 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated

by Shiell et al., U.S. Patent No. 6,108,775.

7.   Regarding claims 12, 15 and 18, taking claim 18 as exemplary, Shiell has taught an

information processing apparatus, comprising:

      a.   A first part performing a branch prediction in response to a branch instruction (see

          Col.7 lines 54-58 and Col.8 lines 20-27),

      b.   A second part updating a transition probability of the branch prediction according

          to whether a branch is actually made (see Col.9 lines 5-9, Col.13 lines 41-47 and

          Col.15 lines 12-24),

      c.   A third part detecting that a process is switched (see Col.16 lines 15-48),

      d.   A fourth part initializing branch prediction information when the third part detects

          that the process is switched (see Col.8 lines 27-37, 56-59 and Col.16 lines 39-43),

          and

      e.   Wherein the fourth part fixedly performs initialization according to a branch

          destination of the branch instruction, without depending on a particular process

          (see Col.8 lines 27-37, 56-59 and Col.10 lines 8-11, 41-53).

8.   Claims 12 and 15 are nearly identical to claim 18. Claim 12 differs in that it is comprised

in an arithmetic and logic unit, and claim 15 is a method, but both claims encompass the same

scope as claim 18. Therefore, claims 12 and 15 are rejected for the same reasons as claim 18.

9.   Regarding claims 11, 14 and 17, taking claim 17 as exemplary, Shiell has taught the

information processing apparatus as claimed in claim 18, wherein the fourth part performs

initialization based on prediction information given to the branch instruction (see Col.8 lines 27-37, 56-59).

10.   Claims 11 and 14 are nearly identical to claim 17, differing in their parent claims, but encompassing the same scope. Therefore, claims 11 and 14 are rejected for the same reasons as claim 17.

11.   Regarding claim 19, Shiell has taught a method performing a branch prediction in response to a branch instruction, comprising:

      a.   Detecting whether a process is switched (see Col.16 lines 15-48); and

      b.   Setting the branch prediction to a predetermined branch prediction information upon detecting that the process is switched (see Col.8 lines 27-37, 56-59 and Col.16 lines 39-43), where the initializing includes fixedly performing initialization according to a branch destination of the branch instruction without depending on a particular process (see Col.8 lines 27-37, 56-59 and Col.10 lines 8-11, 41-53).

Response to Arguments

12.   Applicant's arguments filed 01 October 2004 have been fully considered but they are not persuasive. Applicant argues in essence on pages 4-5

> ...the present invention that 'initializes' branch prediction information upon detecting a process switch. The '775 system that changes one pattern history table to another based on the type of the program does not teach or suggest 'initializing branch prediction information' as recited in each of the independent claims...

13.   This has not been found persuasive. The claim recites "wherein the fourth part fixedly

performs initialization according to a branch destination of the branch instruction, without

depending on a particular process". The language in this claim does not state that the

initialization occurs upon detecting a process switch. Rather, it claims that the specific

initialization process does not matter, i.e. the initialization process does not depend on a

particular process. The initialization can be conducted in any matter as long as initialization

occurs. Also, initializing something, in computer terms, means "to set counters, switches,

addresses, or contents of storage to…prescribed points in, the operation of a computer routine

(Rosenberg <u>Computers, Information Processing, & Telecommunications</u> page 292)."

Accordingly, Shiell teaches in column 8, lines 60-67 the predicted branch address is the

prescribed point, as recited in the definition.

14.   In addition, a process, in the computer field, is "a unique finite course of events defined

by its purpose or by its effect, achieved under given conditions (Rosenberg <u>Computers,

Information Processing, & Telecommunications</u> page 484)." A process switch is a particular

type of process meant to change from a first particular process to a second particular process. In

affect, during a certain time period, when a system runs a process A, switches from process A to

a process B, and runs process B, there are actually three separate processes running in the time

period: process A, process switch from A to B, and process B. So, should the interpretation

alluded to in the arguments be read onto the claims, the claims would make no sense, since the

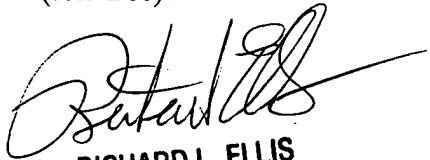process switch causing the initialization is a particular process in and of itself.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RICHARD L. ELLIS
PRIMARY EXAMINER

AJL
Aimee J. Li
16 December 2004